



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,961	04/13/2004	Chao-Yuan Su	24061.59 (TSMC2003-0121)	3593
42717	7590	10/07/2005	EXAMINER	
HAYNES AND BOONE, LLP 901 MAIN STREET, SUITE 3100 DALLAS, TX 75202			THAI, LUAN C	
			ART UNIT	PAPER NUMBER
			2891	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/822,961

Applicant(s)

SU ET AL.

Examiner

Luan Thai

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/13/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 20 is objected to because of the following informalities:

In claim 20, line 1, "the foundation" should be changed to --the base--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 4, 6, 9-12, 14, 16, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Odashima et al (5,998,243).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1, 2, 4, 6, 9-12, 14, 16, and 19-21, Odashima et al (see specifically figures 1-11) disclose a method of manufacturing a microelectronic package, comprising: providing a package substrate (13), coupling a device substrate (12) to the package substrate (13); assembling a bifurcated mold (8) around the device and package substrates (13), wherein

the bifurcated mold (8) comprising a base (11) configured to fix an orientation of the package substrate, a body (10) configured to house the device substrate coupled to the package substrate, wherein assembling the bifurcated mold includes positioning the package substrate (13) in an interior recess (see figures 1 and 8) in the bifurcated mold (8) configured to engage the package substrate (13). Odashima et al. further disclose the bifurcated mold including a seal (16) of fluorine (e.g., considered as Teflon); encapsulating the device and package substrates employing the bifurcated mold, wherein encapsulating the device and package substrates includes filling the bifurcated mold with encapsulant (23), wherein the seal (16) comprises a trench formed in the bifurcated mold (8) and filled with the sealant (16). Odashima et al. also disclose the bifurcated mold further comprising a second seal (36) coupled to the body (see figure 9). Noted that Chapman (US 2004/0190299), paragraph [0052], is cited to show Teflon is also called Fluorine resin.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-8 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odashima et al (5,998,243).

Regarding claims 7-8 and 17-18, Odashima et al. disclose the claimed invention as detailed above except for specifying the width and the depth of the trench in the ranges about 0.5mm – 4mm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the trench having a width and a depth in the claimed ranges (e.g., about 0.5mm – 4mm) because the dimension of the trench is an art recognized variable of importance, which is subject to routine experimentation and optimization.

"Normally, it is to be expected that a change in dimensions, would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely degree from the results of the prior art . . . such ranges are termed 'critical ranges' and the applicant has the burden of proving such criticality . . . More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation."

Note that the specification contains no disclosure of either the critical nature of the claimed ranges (e.g., the width and the depth of the trench in the ranges about 0.5mm – 4mm) of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen ranges or upon another variable recited in a claim, the Applicant must show that the chosen ranges are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQZd 1934, 1936 (Fed. Cir. 1990).

6. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odashima et al (5,998,243) in view of Ota et al. (JP402038303A).

Regarding claims 3 and 13, Odashima et al. disclose the claimed invention as detailed above except for the seal comprising graphite.

Art Unit: 2891

It should be noted that this graphite is conventionally used as a seal since it has strong resistance to acid and good processability (see "Use/Advantage) as disclosed by Ota et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to substitute the graphite seal as taught by Ota et al. in Odashima's in order to has strong resistance to acid and good processability.

7. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odashima et al (5,998,243) in view of Peterson et al. (6,612,175).

Regarding claims 5 and 15, Odashima et al. disclose the claimed invention as detailed above except for the seal comprising Kalrez.

It should be noted that this Kalrez is conventionally used as a seal since it is an elastomeric type seal and has good processability as disclosed by Peterson et al. (Col. 10, lines 18+).

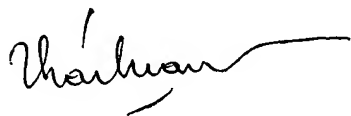
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to substitute the Kalrez seal as taught by Peterson et al. in Odashima's in order to has good processability.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is 571-272-1935. The examiner can normally be reached on 6:30 AM - 5:00 PM, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley W. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2891

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Luan Thai', with a long horizontal flourish extending to the right.

Luan Thai

Primary Examiner

Art Unit 2891

October 4, 2005